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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,240	08/01/2001	Pierte Roo	MP0039CIP	4035

23624 7590 03/25/2005

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EXAMINER

YUN, EUGENE

ART UNIT PAPER NUMBER

2682

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/920,240

Applicant(s)

ROO ET AL.

Examiner

Eugene Yun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-110 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-110 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/23/02 10/16/01 8/28/01
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 12, 24, 37, 48, 61, 74, 85, and 98 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7 of U.S. Patent No. 6,775,529 in view of Patel et al. (US 5,175,764).

Regarding Claims 1, 37, and 74, Claims 1 and 7 of Roo (US 6,775,529) teaches receiving at a first input a composite signal that includes a transmission signal component and a receive signal component, receiving at a second input a replica transmission signal, receiving at a third input a common-mode shift current, and providing a receive signal comprising the composite signal minus the receive signal. Roo (US 6,775,529) does not teach providing a common-mode shift current to substantially prevent the magnitude of the composite signal from exceeding a predetermined value of an operating parameter of the electrical circuit. Patel teaches providing a common-mode shift current to substantially prevent the magnitude of the

composite signal from exceeding a predetermined value of an operating parameter of the electrical circuit (see col. 2, lines 44-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Patel to said method of Roo in order to better prevent the use of excessive amounts of power.

Referring to Claims 12, 48, and 85, Claims 1 and 7 of Roo (US 6,775,529) teaches producing a receive signal as a difference between a composite signal and a replica transmission signal, the composite signal comprising a transmission signal component and a receive signal component. Roo (US 6,775,529) does not teach controlling the magnitude of the composite signal. Patel teaches controlling the magnitude of the composite signal (see col. 2, lines 44-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Patel to said method of Roo in order to better prevent the use of excessive amounts of power.

Referring to Claims 24, 61, and 98, Claims 1 and 7 of Roo (US 6,775,529) teaches receiving at a first input a composite signal that includes a transmission signal component and a receive signal component, receiving at a second input a replica transmission signal, receiving at a third input a common-mode shift current, and providing at an output a receive signal which comprises the composite signal minus the replica signal. Roo (US 6,775,529) does not teach controlling the magnitude of the common-mode shift current to thereby control the magnitude of the composite signal. Patel teaches controlling the magnitude of the common-mode shift current to thereby

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control the magnitude of the composite signal (see col. 2, lines 44-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Patel to said method of Roo in order to better prevent the use of excessive amounts of power.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dankberg (US 5,596,439) in view of Patel (US 5,175,764).

Referring to Claim 1, Dankberg teaches an electrical circuit in a communications channel comprising:

A first sub circuit having a first input for a composite signal, the composite signal including a transmission signal component and a receive signal component (see col. 4, lines 20-22 and input from Receiver to Interference Canceller in fig. 5);

A second input for a replica transmission signal (see input from Source Information Signal in fig. 5); and

an output for a receive signal which comprises the composite signal minus the replica signal (see col. 4, lines 22-26).

Dankberg does not teach a second sub circuit for controlling a common-mode shift current, so that the magnitude of the composite signal does not exceed a predetermined value of an operating parameter of the electrical circuit. Patel teaches a third input which receives a common-mode shift current and a second sub circuit for controlling a common-mode shift current, so that the magnitude of the composite signal does not exceed a predetermined value of an operating parameter of the electrical circuit (see col. 2, lines 44-52 and col. 5, lines 12-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Patel to said method of Dankberg in order to better prevent the use of excessive amounts of power.

Claims 37 and 74 have similar limitations to claim 1.

Referring to Claim 12, Dankberg teaches an electrical circuit in a communications channel comprising:

an active resistive summer which produces a receive signal which comprises the composite signal minus the replica signal (see col. 4, lines 22-26), the composite signal including a transmission signal component and a receive signal component (see col. 4, lines 20-22 and input from Receiver to Interference Canceller in fig. 5).

Dankberg does not teach a common-mode shift current control circuit which controls the magnitude of the composite signal. Patel teaches a common-mode shift current control circuit which controls the magnitude of the composite signal (see col. 2, lines 44-52). Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to provide the teachings of Patel to said method of Dankberg in order to better prevent the use of excessive amounts of power.

Claims 48 and 85 have similar limitations as claim 12.

Referring to Claim 24, Dankberg teaches an electrical circuit in a communications channel comprising:

an active resistive summer having a first input for a composite signal, the composite signal including a transmission signal component and a receive signal component (see col. 4, lines 20-22 and input from Receiver to Interference Canceller in fig. 5), a second input for a replica transmission signal (see input from Source Information Signal in fig. 5), and an output for a receive signal which comprises the composite signal minus the replica signal (see col. 4, lines 22-26).

Dankberg does not teach a common-mode current circuit which controls the magnitude of the common-mode shift current to thereby control the magnitude of the composite signal. Patel teaches a third input which receives a common-mode shift current and a common-mode current circuit which controls the magnitude of the common-mode shift current to thereby control the magnitude of the composite signal (see col. 2, lines 44-52 and col. 5, lines 12-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Patel to said method of Dankberg in order to better prevent the use of excessive amounts of power.

Claims 61 and 98 have similar limitations as claim 24.

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Referring to Claims 2, 13, 25, 38, 49, 62, 75, 86, and 99, Patel also teaches a power supply voltage source of a predetermined magnitude, wherein the operating parameter is the predetermined magnitude of the power supply voltage source (see col. 6, lines 50-54).

Referring to Claims 3, 15, 28, 39, 52, 65, 76, 89, and 102, Patel also teaches a common-mode feedback circuit (see col. 10, lines 60-65).

Referring to Claims 4, 16, 29, 40, 53, 66, 77, 90, and 103, Patel also teaches an operational amplifier (see col. 7, lines 49-51).

Referring to Claims 5, 17, 30, 41, 54, 67, 78, 91, and 104, Patel also teaches the operational amplifier having a first input which receives a first differential component of the composite signal, a second input which receives a second differential component of the composite signal, a third input which receives a common-mode voltage signal, and an output which provides a common-mode shift current control signal (see col. 6, lines 36-45).

Referring to Claims 6, 18, 31, 42, 55, 68, 79, 92, and 105, Patel also teaches the common-mode feedback circuit including a pair of transistors, each transistor having a respective input and wherein the output of the operational amplifier is coupled to the respective input of each of the transistors (see col. 6, lines 15-21).

Referring to Claims 7, 19, 32, 43, 56, 69, 80, 93, and 106, Patel also teaches the second sub-circuit including a current source (see col. 6, lines 18-22).

Referring to Claims 8, 20, 33, 44, 57, 70, 81, 94, and 107, Patel also teaches the current source providing a constant common-mode shift current control signal (see col. 6, lines 18-22).

Referring to Claims 9, 21, 34, 45, 58, 71, 82, 95, and 108, Patel also teaches a resistor divider (see col. 6, lines 46-50).

Referring to Claims 10, 22, 35, 46, 59, 72, 83, 96, and 109, Patel also teaches the resistor divider comprising a plurality of resistors, each of the resistors having a respective characteristic resistance (see col. 6, lines 46-50).

Referring to Claims 11, 23, 36, 47, 60, 73, 84, 97, and 110, Patel also teaches the resistor divider providing a common-mode shift current control signal that is related to the respective resistances of each of the resistors (see col. 6, lines 46-50).

Referring to Claims 14, 26, 50, 63, 87, and 100, Patel also teaches the common-mode shift current control circuit controlling the magnitude of the composite signal to be less than the magnitude of the power supply voltage source (see col. 6, lines 54-63).


Referring to Claims 27, 51, 64, 88, and 101, Patel also teaches the magnitude of the common-mode shift current control circuit controlling the magnitude of the composite signal to be equal to the magnitude of the power supply voltage source (see col. 6, lines 54-63).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (703) 305-2689. The examiner can normally be reached on 8:30am-5:30pm Alt. Fridays off.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Eugene Yun
Examiner
Art Unit 2682

EY


LEE NGUYEN
PRIMARY EXAMINER